

REMARKS

The Examiner is thanked for the thorough examination and search of the subject. The Examiner is thanked for allowing claims 83, 86-89, 91-94 and 97-107.

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Claims 75, 78-83, 86-89, 91-94 and 97-161 are pending; Claims 75, 79, 86, 88, 104 and 107 are currently amended; Claims 108-161 are newly added.

Response to Claim Rejections under 35 U.S.C. 112

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Withdrawal of the claim rejection under 35 U.S.C. 112, second paragraph, is respectfully requested as Claim 79 has been amended.

Response to Claim Rejections under 35 U.S.C. 102 and 103

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Applicants respectfully traverse the rejections for at least the reasons set forth below.

Response to Claims 75, 78-82, 102 and 108-115

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As currently amended, independent claim 75 is recited below:

75. A multi-chip structure comprising:

25 a first chip comprising a pad comprising a titanium-containing layer, a copper layer over said titanium-containing layer, and a nickel layer over said copper layer;

a second chip; and

a tin-containing material connecting said pad to said second chip.

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Section I

Reconsideration of Claims 75 and 78-82 rejected under 35 U.S.C. 102(e) as

being anticipated by US6,734,556 to Shibata is requested in accordance with the following remarks.

Applicants respectfully assert that the electronic component claimed in claim 75
5 patentably distinguishes over the citation by Shibata (US6,734,556).

Shibata teaches that a multi-chip structure comprises a first chip 1 comprising a pad comprising a copper layer 31 and a nickel layer 32 over said copper layer 31; a second chip 2; and a tin-containing material 34 connecting said pad to said second
10 chip 2. ~ See FIG. 8 and lines 27-40, col. 12 ~ However, Shibata fails to teach, hint or suggest the subject matter that the pad may comprises a titanium-containing layer under the copper layer 31, claimed in claim 75.

For at least the foregoing reasons, applicants respectfully submit independent
15 claim 75 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 78-82, 102 and 108-115 patently define over the prior art as well.

Section II

20 *Reconsideration of Claims 75 and 78 to 82 rejected under 35 U.S.C. 103(a) as being unpatentable over US2005/0196907 to Ratificar et al. in view of Shibata (US6,734,556) is requested in accordance with the following remarks.*

Applicants respectfully assert that the electronic component claimed in claim 75
25 patentably distinguishes over the citations by Ratificar et al. (US2005/0196907) and by Shibata (US6,734,556).

Ratificar et al. teach that a multi-chip structure comprises a first chip 10 comprising a pad 14 comprising a copper layer and a nickel layer over said copper
30 layer; a second chip 20; and a solder bump 24 connecting said pad 14 to said second chip 20. ~ See FIGS. 1-13 and paragraph [0025] ~ However, Ratificar et al. fails to teach, hint or suggest the subject matter that the pad 14 may comprises a

titanium-containing layer under the copper layer, claimed in claim 75.

Shibata teaches that a multi-chip structure comprises a first chip 1 comprising a pad comprising a copper layer 31 and a nickel layer 32 over said copper layer 31; a
5 second chip 2; and a tin-containing material 34 connecting said pad to said second chip 2. ~ See FIG 8 and lines 27-40, col. 12 ~ However, Shibata fails to teach, hint or suggest the subject matter that the pad may comprises a titanium-containing layer under the copper layer 31, claimed in claim 75.

10 For at least the foregoing reasons, applicants respectfully submit independent claim 75 patently distinguishes over the prior art references, and should be allowed. For at least the same reasons, dependent claims 78-82, 102 and 108-115 patently define over the prior art as well.

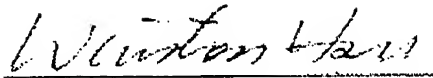
15 Response to Allowable Subject Matter

Dependent claims 88, 101, 104 and 107 have been amended. Reconsiderations for allowable subject matters to claims 88, 101, 104 and 107 are respectfully requested.

20 Conclusion

For at least the foregoing reasons, it is believed that the pending claims 75, 78-83, 86-89, 91-94 and 97-155 are in proper condition for allowance.

Sincerely yours,



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